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10/799,227

03/12/2004

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EXAMINER

JEAN GILLES, JUDE

ART UNIT

PAPER NUMBER

2143

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/799,227	<b>Applicant(s)</b> PUJOL ET AL.	
	<b>Examiner</b> JUDE J. JEAN GILLES	<b>Art Unit</b> 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-13, 15-28, 30-33, and 35-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5, 14, 29 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This office action is in reply to communication filed on 03/12/2008.

### *Response to Amendment/Arguments*

1. Applicant's arguments with respect to claim 1 and 17 have been considered but are moot in view of the new ground(s) of rejection, necessitated by applicants' substantial amendment to the claims, i.e. an "abstraction layer component for providing said more than one application using at least one of said one or more services, wherein said abstraction layer component is operable to provide standardization of back end services, and wherein said abstraction layer component is operable to provide built-in entitlement management for each of said one or more services and each application.".

New patent of Meridith, in combination with Ram discloses among other limitations the limitations of claims 1 and 17 as claimed. Proper motivation and reason to combine are provided (see rejection of claim 1 below).

Examiner notes that no new matter has been added and that the new claims are supported by the application as filed. However, applicant has failed in presenting claims and drawings that delineate the contours of this invention as compared to the cited prior art. Applicant has failed to clearly point out patentable novelty in view of the state of the art disclosed by the references cited that would overcome the 103(a) rejections applied against the claims, the rejection is therefore sustained.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 5, 7-22, 24-27, and 29-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al (hereinafter Ram), U.S. Pub. No. 2003/0004853 A1, in view of Meridith et al (hereinafter Meridith), U.S. Pub. No. 20030212761 A1.

Regarding **claim 1**, Ram discloses a system for implementing computer network services and applications (*figs. 4, and 5*), comprising:

a front-end component comprising one or more applications (*par. 0122, and 0124*);

a back-end component comprising one or more services (*par. 0197-0201; fig. 9; item 44 is the backend components and items 91-99 are the provided backend services*); and

an abstraction layer component operable to communicate with said front-end component and said back-end component (*see fig. 5, item 50; par. 0165; the object layer is the abstraction layer, shielding the user interface layer 46 from the implementation details of the lower level communication layer 50*).

Although Ram discloses the substance of the invention, Ram fails to elaborate on the abstraction layer component for providing said more than one application using at

least one of said one or more services, wherein said abstraction layer component is operable to provide standardization of back end services, and wherein said abstraction layer component is operable to provide built-in entitlement management for each of said one or more services and each application.

In an analogous art, Meridith discloses a hardware layer component (fig. 3A, item 301) that is operable to facilitate access between front end components (items 344, 302, 334, and 336) and back-end components (items 346, 302A-B), and further teaches that *“the operating system kernel 303A of the system is the core of the operating system 342 and is designed to manage memory, files, and peripheral devices (via the hardware abstraction layer 301); maintain the time and date; launch applications, such as a Web service 302A; and allocate system resources.”* (see Meridith, par. 0044; see also fig 3A item 301).

Accordingly, it would have been obvious for an average skill in the art to incorporate the features of Meridith within the structure of Ram, in order to satisfy the need for better methods and systems for allowing processes in concurrent, distributed computing networks to interact while avoiding or reducing problems such as lack of cooperation and inefficiency between processes (see Meridith par. 0016, 0004). By this rationale, claim 1 is rejected.

Regarding claims **5, 7-22, 24-27, and 29-35** the combination Ram-Meridith teaches:

5. A system as in claim 1, wherein said abstraction layer component is operable to provide built-in entitlements (see Ram; par. 0030, 0143; *the built-in entitlements are*

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*understood to be an access control mechanism that is provided to check an individuals' entitlements to determine whether the permission to access a particular service has been given).*

7. A system as in claim 1, wherein said abstraction layer component comprises a business integration component (see Ram; par. 0206, and 0207; *it is important to realize that the algorithms and business rules for matching represents the business integration component*).

8. A system as in claim 1, wherein said abstraction layer component comprises a vendor connectivity component (see Ram; par. 0206; *see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*).

9. A system as in claim 1, wherein said abstraction layer component comprises a security component (see Ram; par. 0030; *the middleware system or the abstraction layer handles security management, whereby the security of the backend system against unwanted hacker intrusion is assured*).

10. A system as in claim 1, wherein said abstraction layer component comprises a utility component (*par. 0165*).

11. A system as in claim 1, wherein said abstraction layer component comprises a back end connectivity component (*par. 0030; see the use of the application server to assure access by the backend system to any required software or software modules in order to perform any required function intended to be carried out by the market trading participants*).

12. A system as in claim 1, wherein said abstraction layer component uses application templates to provide standardization of business services (see Ram; *par. 0044-0046; as standard protocols define the format of instructions and data exchanged between traders, these XML formatted documents inherently represent the business services templates*).

13. A system as in claim 1, wherein said abstraction layer component is operable to provide one or more standardized interfaces to back end services (see Ram; *par. 0030; note the presence of the application sever which a standardized interface to the backend trading services*).

14. A system as in claim 1, wherein said abstraction layer component is operable to provide standardization of back end services (see Ram; *par. 0317*).

15. A system as in claim 1, wherein said abstraction layer component is operable to provide one or more standardized interfaces to external consumers and providers (see

Ram; par. 0317-0321).

16. A system as in claim 1, wherein said abstraction layer component comprises a single deployment platform (see Ram; par. 0166; *note that the communication layer which is used by the abstraction layer to communicate to the backend applications services uses a SOAP or Winsock deployment platform*).

17. A system for linking s more than one application and said one or more services (figs. 4, and 5), comprising:

a vendor connectivity component (see Ram; par. 0206; *see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*);

a business integration component (see Ram; par. 0206, and 0207; *it is important to realize that the algorithms and business rules for matching represents the business integration component*);

a security component (see Ram; par. 0030; *the middleware system or the abstraction layer handles security management, whereby the security of the backend system against unwanted hacker intrusion is assured*) wherein said security component is operable to provide entitlement management for said more than one application and said one or more services (see Meridith, par. 0044; see also fig 3A item 301);

a utility component (see Ram; par. 165); and



a back end connectivity component (see Ram; par. 0030; *see the use of the application server to assure access by the backend system to any required software or software modules in order to perform any required function intended to be carried out by the market trading participants*), wherein said back end connectivity component is operable to enable said more than one application to access said one or more services via one standardized application program interface (see Meridith, par. 0044; *see also fig 3A item 301*).

18. A system as in claim 17, wherein said vendor connectivity component is operable to standardize exposure of said applications to said services (see Ram; par. 0206; *see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*).

19. A system as in claim 17, wherein said vendor connectivity component is operable to provide a consistent abstraction between a user interface and a middle tier (*see fig. 5; par. 0165*).

20. A system as in claim 17, wherein said vendor connectivity component is operable to use standardized headers to provide substantially seamless system management integration between a caller and said applications (*0054, 0216, and 0261*).

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21. A system as in claim 17, wherein said vendor connectivity component is operable to provide automatically generated service entry points (see Ram; par. 0189, 0195, and 0254).

22. A system as in claim 17, wherein said vendor connectivity component is operable to provide service location (see Ram; par. 0165; *as the users' actions are sent to backend, inherently, the location of the backend services (remote or local) is known by the business logic, thereby performing connectivity*) and activation capabilities using one or more standard interfaces (see Ram; par. 0223).

24. A system as in claim 17, wherein said business integration component is operable to provide call context information (see Ram; par. 134-141; *for example a quote for a bid is a call context information in which, the name of seller/buyer, quote price and the like are revealed*).

25. A system as in claim 17, wherein said business integration component is operable to provide identity context information (see Ram; par. 134-141; *note that the names of real securities and of real stock exchanges and other market trading participants, Electronic*

*Communication Network (ECN) trading systems, and the like, may be noted. The use of such names and identities is not intended to suggest any endorsement or*

*connection with, or position in, any such security, stock exchange, or ECN).*

26. A system as in claim 17, wherein said business integration component is operable to provide application context information (see Ram; par. 0141).

27. A system as in claim 17, wherein said security component is operable to provide distributed security (see Ram; par. 0030; *the middleware system or the abstraction layer handles security management, whereby the security of the backend system against unwanted hacker intrusion is assured*).

29. A system as in claim 17, wherein said security component is operable to provide entitlement management (see Ram; par. 0030, 0143; *the entitlement management is understood to be an access control mechanism that is provided to check an individuals' entitlements to determine whether the permission to access a particular service has been given*).

30. A system as in claim 17, wherein said security component is operable to provide identity management (see Ram; par. 0054, 0058, and 0135).

31. A system as in claim 17, wherein said utility component is operable to enable said applications to access utilities using a standardized application program interface (see Ram; par. 0165).

32. A system as in claim 17, wherein said utility component is operable to provide centralized end-to-end system management with an ability to correlate information across a plurality of parameters (see Ram; par. 0126, and 0198).

33. A system as in claim 17, wherein said utility component is operable to enable auditing at system boundaries to manage service level agreements and method level metering (see Ram; par. 168, 175, 191, 192, and 0198).

34. A system as in claim 17, wherein said back end connectivity component is operable to enable said applications to access said services via one standardized application program interface (see Ram; par. 0317-0321).

35. A system as in claim 17, wherein said back end connectivity component is operable to provide access to back end data sources without changing a back end system (see Ram; par. 0205-0207).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2, 3, 6, and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram and Meridith as in claims 1 and 17 above, in further view of Ganfield et al (Ganfield), U.S. Pub. No 2004/0221066 A1.

Regarding **claim 2**, Ram-Meridith teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises “an abstraction layer component operable to communicate with said front-end component and said back-end component” (see *Ram, fig. 5; par. 0165*). However Ram fails to teach a system wherein said abstraction layer component is operable to provide de-coupling of services provided by said back-end component.

Ganfield discloses “logic that constitute an Application Programming Interface (API) that provides an abstraction layer that decouples software from a specific hardware implementation”, in an attempt to facilitate “implementation optimization without impacting user software” (see Ganfield, par. 0018; note that the software here is equivalent to “software services”).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Ganfield’s teachings of a system that uses abstraction layer component to provide de-coupling of services with the teachings of Ram-Meridith, for the purpose of manipulating those services or software in an abstract data view, avoiding any unnecessary copying of data which conserves precious memory bandwidth, thereby reducing the associated product and

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operation costs as indicated by Ganfield in paragraph 0019. By this rationale **claim 2** is rejected.

**Regarding claims 3, 6, and 36**, the combination Ram-Meridith-Ganfield teaches:

3. A system as in claim 1, wherein said abstraction layer component is operable to provide de-coupling of said more than one applications in said front-end component (*see Ganfield, par. 0018, and 0019* note that the software here is equivalent to “application software”). The same motivation and reason to combine used for the rejection of claim 2 is also valid for this claim. By this rationale, claim 3 is rejected.

6. A system as in claim 1, wherein said abstraction layer component is operable to provide system wide error reporting (*see Ganfield, par. 0029; note that as the commands that cause the errors are reported, a system wide error reporting is generated*). The same motivation and reason to combine used for the rejection of claim 2 is also valid for this claim. By this rationale, claim 6 is rejected.

36. A system as in claim 17, wherein said back end connectivity component is operable to enable de-coupling of said applications from said services (*see Ganfield, par. 0018; note that the software here is equivalent to “software services”*).

5. **Claims 4, 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram and Meridith as in claims 1 and 17 above, in further view of Bhatia et al (Bhatia), U.S. Pub. No 2007/0199056 A1.

Regarding **claim 4**, Ram-Meridith teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises “an abstraction layer component operable to communicate with said front-end component and said back-end component” (see *Ram, fig. 5; par. 0165*). However Ram fails to teach a system wherein said abstraction layer component is operable to provide single sign on for substantially all of said more than one application.

Bhatia provides a system that facilitates end-to-end identity propagation to a backend-tier application that is not single sign-on enabled. *“Upon receiving a request from a single sing-on server, the system redirects the user to a single sign-on server that verifies authentication credentials of the user. The middle-tier application then receives a token from the single sign-on server authorizing access to a backend-tier application. Next, the middle-tier application uses the token to access the private data from the backend-tier application, and then provides the private data to the user”* (see *Bhatia par. 0009*). Note that the middle-tier application represents that abstraction layer that uses the single sign-on token to access backend applications.

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Bhatia’s teachings of a system that uses abstraction layer component to provide single sign-on with the teachings of Ram-Meridith, for the purpose of providing a single sign-on service that

can be used as a single point of authentication for the partner applications, thereby facilitating en-to-end authentication for the applications and providing a centralized trust model, as indicated by Bhatia in paragraph 0006. By this rationale **claim 4** is rejected.

**Regarding claim 28**, the combination Ram-Meridith-Bhatia teaches:

28. A system as in claim 17, wherein said security component is operable to provide single sign on (*see Bhatia par. 0009*).

6. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ram and Meridith as in claim 17 above, in further view of Purewal et al (Purewal), U.S. Pub. No 20050144226 A1.

Regarding **claim 23**, Ram-Meridith teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises “an abstraction layer component operable to communicate with said front-end component and said back-end component” (*see Ram, fig. 5; par. 0165*). However Ram fails to teach a system wherein said one or more standard interfaces comprise a Universal Discovery Description and Integration interface.

Purewal provides a system that offers “*interactive services which may then be published in public or private registries, such as Universal Description, Discovery, and Integration (UDDI), and may also be used in high-level business flows which can integrate with other applications and thereby deliver composite applications*” (*see Purewal, par. 0041*). In an attempt to standardize the use of a distributed Web-based



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information registries of Web services, using a Universal Discovery Description and Integration interface to allow businesses to register information about Web services makes sense.

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Purewal's teachings of a system that uses a Universal Discovery Description and Integration interface with the disclosures of implementing computer network services and applications of Ram-Meridith, for the purpose of allowing businesses (security trade companies and individual traders) to register information about the Web Services they offer (their securities) so that other businesses (other security trade companies and individual traders) can find them, and conduct business with them. Using this known technique of publishing Web services to provide the required service location and activation required by Ram would have been obvious. By this rationale, claim 23 is rejected.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914.

The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3301.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0800.

/Jude J Jean-Gilles/

Primary Examiner, Art Unit 2143

JJG

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/Nathan J. Flynn/

Supervisory Patent Examiner, Art Unit 2143